Vertex Standard

VX-160E/-180E Operating Manual
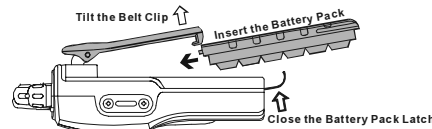
Controls & Connectors

LED Indicator

Glows Green	Monitor on (except 5-Tone Mode)
Blinking Green	Busy Channel (or SQL off)
Glows Red	Transmitting
Blinking Red	Battery Voltage is low
Blinking Yellow	Receiving a Selective Call

Antenna

CH (Channel) Selector

VOL/PWR Knob

Push To Talk (PTT) Switch

MIC/SP Jack (External Mic/Earphone)

Monitor Key

Speaker

Microphone

LCD (VX-180E)

Soft KEY (VX-180E)

Battery Pack Latch

E C 0 3 7 N 2 0 1

Before You Begin

Battery Pack Installation and Removal

❏ To install the battery, hold the transceiver with your left hand, so your palm is over the speaker and your thumb is on the top of the belt clip. Insert the battery pack into the battery compartment on the back of the radio while tilting the Belt Clip outward, then close the Battery Pack Latch until it locks in place with a "Click."

Tilt the Belt Clip

Insert the Battery Pack

Close the Battery Pack Latch

❏ To remove the battery, turn the radio off and remove any protective cases. Open the Battery Pack latch on the bottom of the radio, then slide the battery downward and out from the radio while holding the Belt Clip.

> *Caution!*
> *Do not attempt to open any of the rechargeable battery packs, as they could explode if accidentally short-circuited.*

Low Battery Indication

❏ As the battery discharges during use, the voltage gradually becomes lower. When the battery voltage becomes to low, substitute a freshly charged battery and recharge the depleted pack. The **TX/BUSY** indicator on the top of the radio will blink *red* (on the **VX-180E**, the "🔋" icon will appear on the LCD) when the battery voltage is low.

❏ Avoid recharging Ni-MH batteries often with little use between charges, as this can degrade the charge capacity. We recommend that you carry an extra, fully-charged pack with you so the operational battery may be used until depletion (this "deep cycling" technique promotes better long-term battery capacity).
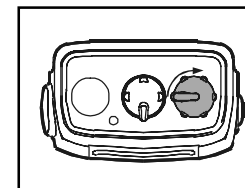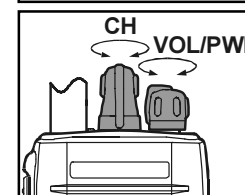

Operation

Preliminary Steps

❏ Install a charged battery pack onto the transceiver, as described previously.

❏ Screw the supplied antenna onto the Antenna jack. Never attempt to operate this transceiver without an antenna connected.

❏ If you have a Speaker/Microphone, we recommend that it not be connected until you are familiar with the basic operation of the **VX-160E/-180E**.

Operation Quick Start

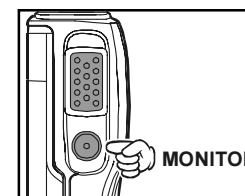❏ Turn the top panel's **VOL/PWR** knob clockwise to turn on the radio on.

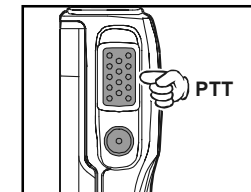❏ Turn the top panel's **CH** selector knob to choose the desired operating channel.

❏ Rotate the **VOL/PWR** knob to set the volume level. If no signal is present, press and hold in the **MONITOR** key (the lower button on the left side) for more than 1.5 seconds; background noise will now be heard, and you may use this to set the **VOL/PWR** knob for the desired audio level.

CH   VOL/PWR

❏ Press and hold in the **MONITOR** key for more than 1.5 seconds (or press the **MONITOR** key twice) to quiet the noise and resume normal (quiet) monitoring (default).
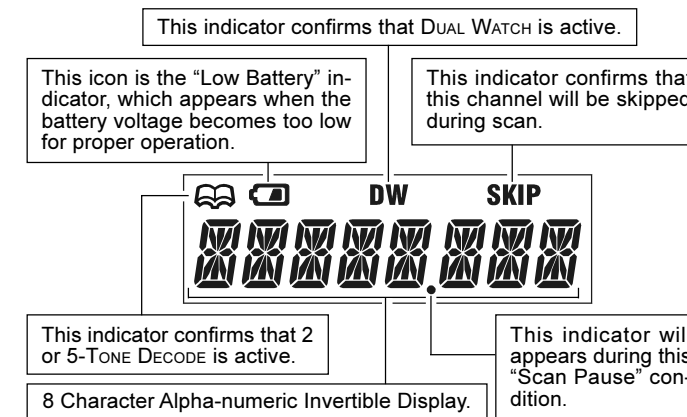
MONITOR

❏ To transmit, press and hold in the **PTT** switch. Speak into the microphone area of the front panel grille (lower left-hand corner) in a normal voice level. To return to the Receive mode, release the **PTT** switch.

PTT

❏ If a Speaker/Microphone is available, remove the plastic cap and its two mounting screws from the right side of the transceiver, then insert the plug from the Speaker/Microphone into the **MIC/SP** jack; secure the plug using the screws supplied with the Speaker/Microphone. Hold the speaker grille up next to your ear while receiving. To transmit, press the **PTT** switch on the Speaker/Microphone, just as you would on the main transceiver's body.

Note: Save the original plastic cap and its mounting screws. They should be re-installed when not using the Speaker/Microphone.

Display Icons & Indicators (VX-180E Only)

This indicator confirms that DUAL WATCH is active.

This icon is the "Low Battery" indicator, which appears when the battery voltage becomes too low for proper operation.

This indicator confirms that this channel will be skipped during scan.

📖 🔋   DW   SKIP

This indicator confirms that 2 or 5-TONE DECODE is active.

This indicator will appears during this "Scan Pause" condition.

8 Character Alpha-numeric Invertible Display.

Key Functions

The **VX-180E** provides programmable [**A**], [**B**], and [**C**] function keys, and both the **VX-160E** and **VX-180E** provide programmable **MONITOR** keys. These "**Soft**" keys functions can be customized (set to other functions), via programming by your **VERTEX STANDARD** dealer, to meet your communications/network requirements. The possible **Soft** key programming features are illustrated below, and their functions are explained in the next chapter. For further details, contact your **VERTEX STANDARD** dealer.
For future reference, check the box next to each function that has been assigned to the **Soft** key on your particular radio, and keep it handy.

Function	Soft Key						MONITOR Key	
	[A]		[B]		[C]			
	Press	Press and Hold	Press	Press and Hold	Press	Press and Hold	Press	Press and Hold
None								
Monitor								
Squelch off								
Low Power								
Lock*								
Lamp*								
Channel Up*								
Channel Down*								
Scan								
Follow-me Scan								
Dual Watch								
Talk Around								
Add/Del*								
Reset								
Speed Dial								
TX Save Off								
Call 1								
Call 2								
Call 3								
Code Select*								
Code Up*								
Code Down*								
Emergency	—		—		—		—	
Group**								

* VX-180E only
** 32 Channel Version only

Accessories & Options

FNB-83	7.2 V 1400 mAh Ni-MH Battery
FBA-25A	Alkaline Battery Case
CD-30	Desktop Charger
PA-38C	230 VAC AC Adapter
PA-38U	230 VAC AC Adapter
MH-45B4B	Speaker/Microphone
MH-37A4B	Earpiece Microphone
VC-25	VOX Headset
ATV-8A	VHF Antenna, 134~151 MHz (Stubby)
ATV-8B	VHF Antenna, 150~163 MHz (Stubby)
ATV-8C	VHF Antenna, 161~174 MHz (Stubby)
ATV-6XL	VHF Antenna, 134~174 MHz (Untuned)
ATU-6A	UHF Antenna, 410~430 MHz
ATU-6C	UHF Antenna, 440~470 MHz
CT-42	PC Programming Cable
CT-27	Radio to Radio Programming Cable
CE51	Programming Software

Monitor

Press the assigned **Soft** key momentarily to override (disable) the Tone squelch (For the 5-Tone mode, please ask to your nearest Vertex Standard dealers).

Squelch OFF

Press (or Press and hold) the assigned **Soft** key to hear background noise (unmute the audio).
Background noise or incoming signals will now be heard whether or not a matching tone is present on the signal.
Press and hold in the assigned **Soft** key for more than 1 seconds to override both the Noise and Tone squelch. Again press and hold in the assigned **Soft** key for more than 1 seconds (or press the assigned **Soft** key twice) to resume normal (quiet) Noise and Tone squelch action.

Low Power

Press (or Press and hold) the assigned **Soft** key to set the radio's transmitter to the "Low Power" mode, thus extending battery life. Press the assigned **Soft** key again to return to "High Power" operation when in difficult terrain.

Lock

Press (or Press and hold) the assigned **Soft** key to lock the **Soft** keys (except *Emergency, Lock* and *Monitor* key); thus, the [**A**], [**B**], [**C**], and **MONITOR** keys can be disabled to prevent radio settings from being disturbed.

Lamp

Press (or Press and hold) the assigned **Soft** key to illuminate the LCD for five seconds.

Channel Up

Press (or Press and hold) the assigned **Soft** key to switch to a higher operating channel number.

Channel Down

Press (or Press and hold) the assigned **Soft** key to switch to a lower operating channel number.

Scan

The Scanning feature is used to monitor multiple channels programmed into the transceiver. While scanning, the radio will check each channel for the presence of a signal, and will stop on a channel if a signal is present.

❒ To activate scanning:
Press (or Press and hold) the assigned **Soft** key.
The scanner will search the channels, looking for active ones; it will pause each time it finds a channel on which someone is speaking.
❒ To stop scanning:
Press (or Press and hold) the assigned **Soft** key.
Operation will revert to the channel to which the CH knob is set.

Follow-Me Scan

"Follow-Me" Scan feature checks a *User-assigned* Priority Channel regularly as you scan the other channels. Thus, if only Channels 1, 3, and 5 (of the 8 available channels) are designated for "Scanning," the user may nonetheless assign Channel as the "User-assigned" Priority Channel via the "Follow-Me" feature.
Press the assigned **Soft** key to activate "Follow-Me" scanning, then turn the CH selector knob to the channel which you want to designate as the "User-Assigned Priority Channel". When the scanner stops on an "active" channel, the User-assigned Priority Channel will automatically be checked every few seconds.

Dual Watch

The Dual Watch feature is similar to the Scan feature, except that only two channels are monitored: the current operating channel, and the "Priority" channel.

❒ To activate Dual Watch:
Press (or Press and hold) the assigned **Soft** key.
The scanner will search the two channels; it will pause each time it finds a channel on which someone is speaking.
❒ To stop Dual Watch:
Press the assigned **Soft** key.
Operation will revert to the channel to which the CH knob is set.

Talk Around

Press (or Press and hold) the assigned **Soft** to activate the Talk Around feature when you are operating on duplex channel systems (separate receive and transmit frequencies, utilizing a "repeater" station). The Talk Around feature allows you to bypass the repeater station and talk directly to a station that is nearby. This feature has no effect when you are operating on "Simplex" channels, where the receive and transmit frequencies are already the same.
Note that your dealer may have made provision for "Talk Around" channels by programming "repeater" and "Talk Around" frequencies on two adjacent channels. If so, the key may be used for one of the other Pre-Programmed Functions.

Add/Del

The Add/Del feature allows the user to arrange a custom Scan.
Press (or Press and hold) the assigned **Soft** key to delete/restore the current channel to/from your scanning list.
When you delete a current channel, "**SKIP**" will appear on the LCD after pressing the **Soft** key. When you restore a current channel, "**SKIP**" indicator on the LCD will turn off.

Reset

Press (or Press and hold) the assigned soft key to reset the 2-Tone or 5-Tone sequential signaling System.

Speed Dial

Your Dealer may have pre-programmed Auto-Dial telephone number memories into your radio.
To dial a number, just press (or Press and hold) the Dealer-assigned **Soft** key for Speed Dialing. The DTMF tones sent during the dialing sequence will be heard in the speaker.

TX Save Off

Press (or Press and hold) the assigned **Soft** key to disable the Transmit Battery Saver, if you are operating in a location where high power is almost always needed.
The Transmit Battery Saver helps extend battery life by reducing transmit power when a very strong signal from an apparently nearby station is being received. Under some circumstances, though, your handheld radio may not be heard well at the other end of the communication path, and high power may be necessary at all times.

Call 1

Press (or Press and hold) the assigned **Soft** key to send the 5-Tone sequential Code which is set to the present channel.

Call 2 / 3

Press (or Press and hold) the assigned **Soft** Key to send the pre-programmed 5-Tone sequential Code.

Code Select

Press (or Press and hold) the assigned **Soft** Key to engage the setting of the 5-Tone sequential Code.
While setting the sequential code, press (or Press and hold) this key to move the cursor to the next character.

Code Up

Press (or Press and hold) the assigned **Soft** Key to switch to a higher paging code number for the 5-Tone sequential signaling System.
While setting the sequential code, press (or Press and hold) this key to switch to a higher sequential Code number.

Code Down

Press (or Press and hold) the assigned **Soft** Key to switch to a lower paging code number for the 5-Tone sequential signaling System.
While setting the sequential code, press (or Press and hold) this key to switch to a lower sequential Code number.

Emergency

The **VX-160E/-180E** includes an "Emergency" feature which may be useful if you have someone monitoring on the same frequency as your transceiver's channel. For further details contact your nearest Vertex Standard dealer.

Group (32 Channel Version only)

The **32-channel Version** is capable of separating its 32 channels into either of 2 groups (Group-A: CH 1~CH 16, Group-B: CH17~CH32). Press (or press and hold in) the assigned **Soft** Key to change the between Group-A and Group-B.